CLAIMS

1. A silicon wafer for non-oxidative heat treatment for use in semiconductor device manufacture, wherein nitrogen concentration is in the range from 5 X 10^{13} atoms/cm^3 to 1 X 10^{15} atoms/cm^3.

2. A silicon wafer for non-oxidative heat treatment for use in semiconductor device manufacture, wherein nitrogen concentration is in the range from 5 X 10^{13} atoms/cm^3 to 4 X 10^{14} atoms/cm^3.

SUB A1 > 3. A silicon wafer for non-oxidative heat treatment for use in semiconductor device manufacture according to any one of claim 1 and claim 2, wherein the silicon wafer is a silicon wafer for hydrogen heat treatment or a silicon wafer for argon annealing.

4. A method of manufacturing a silicon ingot for manufacturing of silicon wafers for non-oxidative heat treatment, wherein in a method of manufacturing a silicon ingot by pulling a silicon single crystal by Czochralski method, nitrogen is doped and the silicon single crystal is pulled under a condition that a portion is formed in which nitrogen concentration is from 5 X 10^{13} atoms/cm^3 to 1 X 10^{15} atoms/cm^3.

SUB A2 > ~~5. A silicon wafer for manufacturing a semiconductor device~~ manufactured by hydrogen heat ~~treatment or argon annealing of the silicon~~ wafer for non-oxidative heat treatment according to any of ~~claim 1 to claim~~ 3.

6. A silicon wafer for semiconductor device manufacture wherein doping amount of nitrogen is adjusted taking into account life of a virtual element.

7. A method of evaluating a nitrogen-doped wafer wherein decision as to whether or not the nitrogen-doped wafer can be used as a wafer for semiconductor device manufacture is made by calculating life of a virtual element on a nitrogen-doped heat treatment wafer.

8. The method of evaluating wafers according to claim 7 wherein the method of calculating the life of the virtual element on the wafer is the TDDB test.